

REMARKS

Claims 1-43 are in the application for consideration.

The drawings have been objected to because they include reference sign(s) (135 and 144) not mentioned in the description. Corrected drawings in compliance with 37 CFR § 1.121 are submitted with this response. The drawings reflect the deletion of reference sign 135 and the amendment of reference sign 146. Further, the specification has been amended to correspond to such changes. The drawings are now believed to be unobjectionable.

Claims 1-43 stand rejected over Lewis et al. in view of Wesley, Kamo et al., French et al., Liang et al. and Spangler et al., in various combinations. Applicant requests reconsideration of such rejections.

Referring first to claim 1, such claim is believed to be allowable over the cited references for at least the reason that the cited references, either alone or in combination, neither teach nor suggest an electrically conductive conduit configured to receive particulate sample, and an electrically conductive reference device positioned proximate the discharge end of the conduit at a distance therefrom sufficient to allow an electrical potential to be established between the conduit and the reference device.

The Examiner is reminded that under MPEP §706.02(j) three basic criteria must be met when combining references. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one ordinarily skilled in the art, to combine the reference teachings. Second, there must be a reasonable expectation of success; and third, the combined references must teach or suggest all of the limitations of the claims. Also, the teaching or suggestion to make the claimed combination, and the reasonable expectation of success, must both be found in the prior art and not based on the Applicant's disclosure.

In pertinent part, claim 1 recites an ionization spectrometry source that includes an

electrically conductive conduit configured to receive a particulate sample, and an electrically conductive reference device positioned proximate the discharge end of the conduit sufficient to allow an electrical potential to be established between the conduit and the reference device.

The cited references do not teach or suggest an electrically conductive conduit positioned proximate an electrically conductive reference device sufficient to allow an electrical potential to be established between the conduit and the reference device. As indicated to be most relevant, Lewis apparently teaches a thermospray ion source configuration having an electrode, in either rod 27 or plate 45 form, within, and insulated 28 from, ion chamber 11. While rod 27 or plate 45 could be considered conductive, no mention or suggestion is made in Lewis that rod 27 or plate 45 is a conduit configured to receive particulate sample. Moreover, because Lewis specifically teaches that rod 27 and plate 45 are insulated 28 from ion chamber 11, ion chamber 11 cannot be considered conductive either. Therefore, Lewis contains no teaching or suggestion of a conductive conduit.

Further, even if the electric field generated by rod 27 or plate 45 within ion chamber 11 could be considered a conductive conduit, Lewis does not teach or suggest the placement of an element resembling an electrically conductive reference device proximate ion chamber 11 sufficient to allow an electrical potential to be established between the ion chamber and any element that may be considered a reference device. Lewis discloses only non-conductive elements proximate ion chamber 11. For example, Lewis neither teaches or suggests that cone 26 or chamber 5 are electrically conductive and Lewis specifically teaches that electrodes 15, 16 and 17 are insulated from cone 26. (see, e.g., Col. 9, lines 35-40). In sum, Lewis neither teaches nor suggests an electrically conductive conduit proximate an electrically conductive reference device sufficient to allow an electrical potential to be established between the conduit and the reference device. Likewise, the remaining cited references neither teach nor suggest this feature.

Claim 1 is therefore allowable for at least the reason that it recites an electrically conductive

conduit proximate an electrically conductive reference device sufficient to allow an electrical potential to be established between the conduit and the reference device and this limitation is neither taught nor suggested by the cited references. Applicant requests allowance of claim 1 in the Examiner's next action.

Claims 2-14 all depend from claim 1, and are therefore allowable for at least the reasons discussed above regarding claim 1.

Referring next to claim 15, such claim recites a spectrometer that includes, in pertinent part, an electrically conductive conduit configured to receive a particulate sample, and an electrically conductive reference device positioned proximate the discharge end of the conduit sufficient to allow an electrical potential to be established between the conduit and the reference device.

As discussed above, claim 15 is allowable for at least the reason that it recites an electrically conductive conduit proximate an electrically conductive reference device sufficient to allow an electrical potential to be established between the conduit and the reference device and this limitation is neither taught nor suggested by the cited references. Applicant requests allowance of claim 15 in the Examiner's next action.

Claims 16-32 all depend from claim 15, and are therefore allowable for at least the reasons discussed above regarding claim 15.

Referring next to claim 33, such claim recites a method that includes, in pertinent part, providing a first electrode, a second electrode proximate the first electrode and maintaining a first electrical potential at the first electrode, and a second electrical potential at the second electrode, such that an electrical potential exists there between.

As discussed above the cited references do not teach or suggest a first and second electrode having an electrical potential therebetween. As stated earlier, Lewis teaches only an isolated electrode within an insulated ion chamber and the remaining references do not teach this feature.

Claim 33 is therefore allowable for at least the reason that it recites maintaining a first electrical potential at the first electrode, and a second electrical potential at the second electrode, such that an electrical potential exists there between and this limitation is neither taught nor suggested by the cited references. Applicant requests allowance of claim 33 in the Examiner's next action.

Claims 34-36, 38-40 and 42-43 all depend from claim 33, and are therefore allowable for at least the reasons discussed above regarding claim 33.

Lastly, with respect to claim 37, such claim recites a method that includes, in pertinent part, providing a first electrode, a second electrode proximate the first electrode and maintaining a first electrical potential at the first electrode, and a second electrical potential at the second electrode, at a point above breakdown potential there between such that the arrival of a particulate sample causes a corona discharge.

As discussed above the cited references do not teach or suggest a first and second electrode sufficiently proximate to have a breakdown potential nor to have a corona discharge upon the arrival of a particulate sample. As stated earlier, Lewis teaches only an isolated electrode within an insulated ion chamber and the remaining cited references do not teach this feature.

Claim 37 is therefore allowable for at least the reason that it recites maintaining a first electrical potential at the first electrode, and a second electrical potential at the second electrode, such that upon arrival of a particulate sample a corona discharge is caused and this limitation is neither taught nor suggested by the cited references. Applicant requests allowance of claim 37 in the Examiner's next action.

Claims 41 depends from claim 37, and is therefore allowable for at least the reasons discussed above regarding claim 37.

For the reasons discussed above, claims 1-43 are allowable. Accordingly, applicant

respectfully requests formal allowance of claims 1-43 in the Examiner's next action.

Respectfully submitted,

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